

Abstract

The invention relates to a cold cathode ionization manometer for measuring pressure in a vacuum, said manometer operating according to the inverse magnetron principle and being used to measure pressures in fine
5 vacuums, high vacuums, and ultrahigh vacuums (preferably between 10^{-2} Pa and 1 Pa). The aim of the invention is to reduce the contamination tendency and thus to extend the service life of said measuring tubes. To this end, a measuring tube comprising two separately controlled cathodes (K1, K2) and a
10 common anode (A), enabling two independent discharges to be ignited inside the same, is used. While a discharge (K1) which is directly localized at the inlet of the measuring tube takes on the function of a gas purification device in which plasma-chemically dissociation reactions enable vapors contaminated by hydrocarbons or other substances entering into the
15 measuring tube to be cracked or polymerized, a second discharge chamber (K2) inserted into the measuring tube housing (MRG) and protected by a gas discharge path (K1) operated as an intrinsic measuring chamber. Only the discharge current flowing out of said discharge area (K2) is evaluated and is used to measure the pressure. Said special double-chamber measuring tube
20 geometry enables the plasma to burn in the integral measuring chamber (K2) under optimum conditions of cleanliness, thus enabling the service life of the measuring tube to be extended.